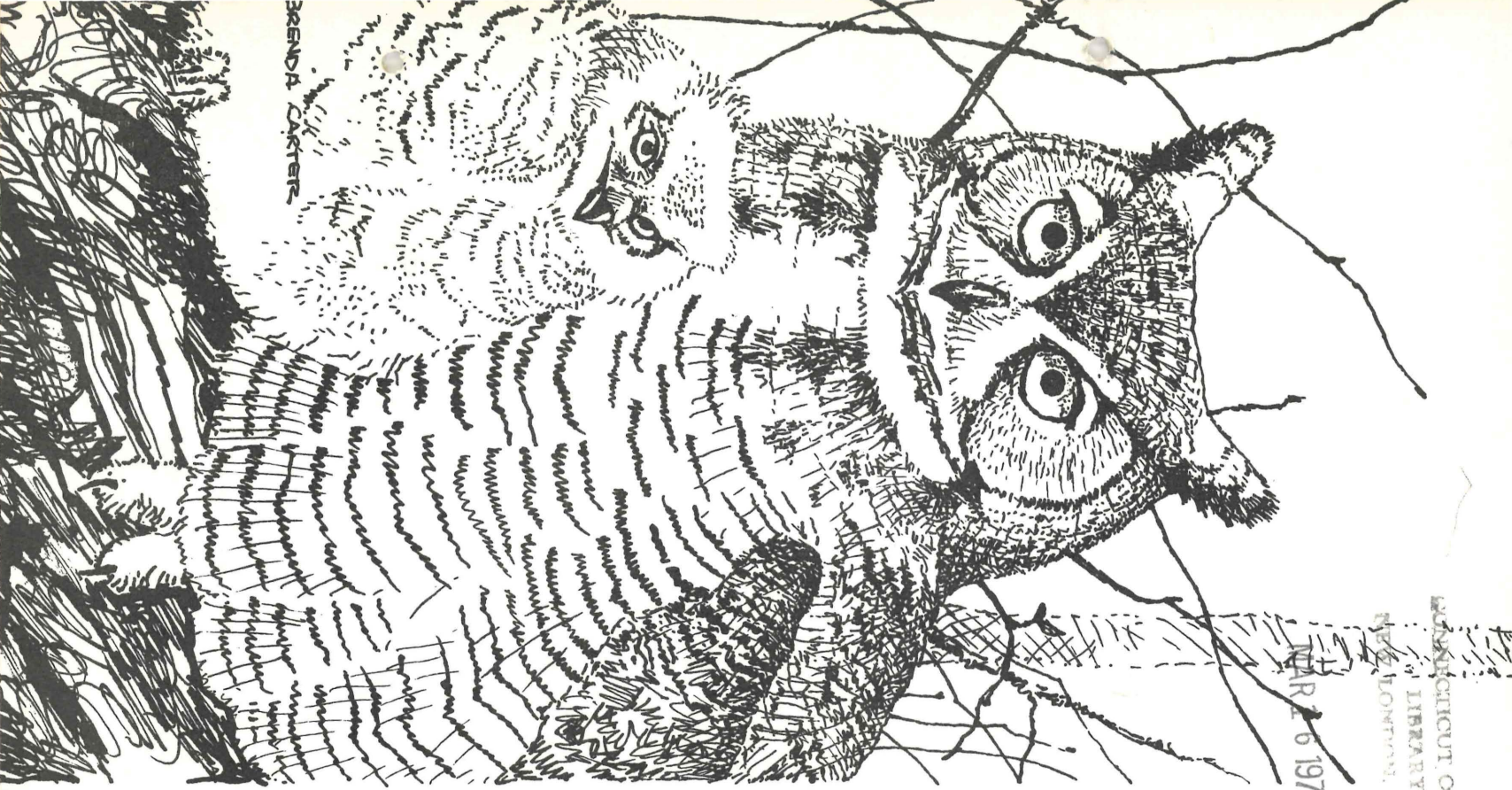

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Naturalist Notebook

MARCH 1973

Naturalist Notebook

MARCH 1973 VOLUME 9 NUMBER 3

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Great Horned Owl with Young . . . Brenda Carter

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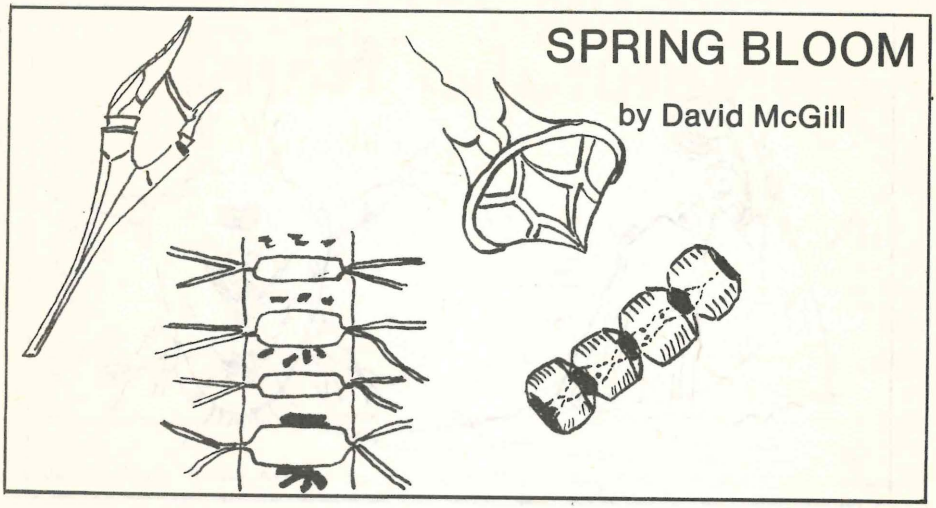
SPRING BLOOM

by David McGill

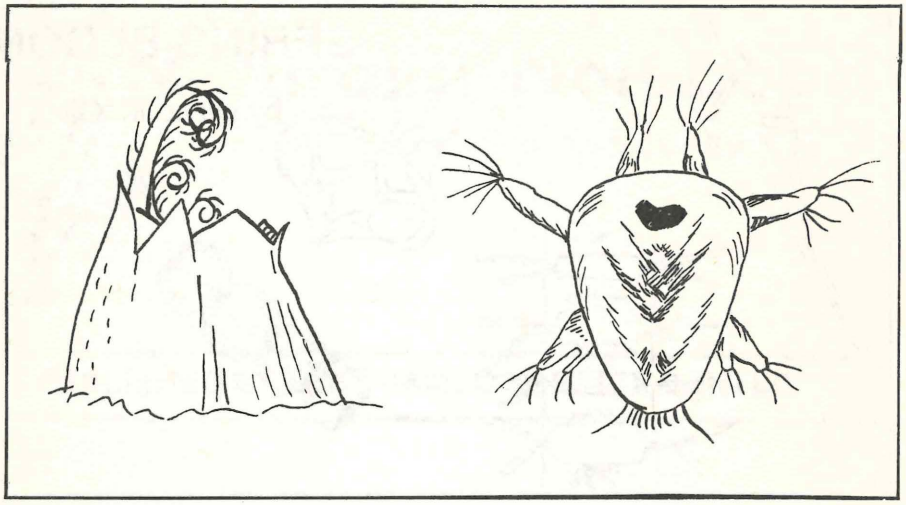


Dinoflagellates and diatoms

The winter-weary New Englander usually waits until March or April before the signs of Spring become apparent. But if one looks instead to the estuarine and coastal waters of the inshore marine environment, a season of bloom and increase has already begun. Indeed, the "Spring Bloom" in the plankton of Long Island Sound may begin in a mild year as early as January or as late as February. The peak of the seasonal production is often well advanced by the official calendar arrival of Spring.

The bloom of the coastal marine life occurs primarily in microscopic or just barely visible life forms in the drifting and floating realm of the plankton. The one-celled plants of this realm are predominantly a group of algae known as the diatoms. Such forms are characterized by having a box-like skeleton largely made of silica, round in form or elongated, pinnate or feather-like. Further, the shell may be elaborated with spiny processes to increase the surface area with respect to volume, and hence improve the flotation possibilities for the plant. In other species of diatoms, numerous single cells may clump together to form a long string or chain. Some diatoms also have oil droplets or gas within the cell to improve their flotation.

These adaptations of the shell are devices to keep the plant cells near the surface, where they can obtain the light needed for photosynthesis. It is particularly because of the increasing availability of light after the winter solstice that the bloom conditions of abundance begin to occur. The full cycle of events in the plankton represents an interlinking relationship of physical and biological factors in the marine environment. Such a coordination of events is characteristic of the delicate adjustments in nature. When one of the controlling factors becomes unbalanced, a plankton bloom may occur without its natural limits. Because these blooms may include other plant forms known as dinoflagellates, microscopic organisms that often include reddish pigmentation, such out-of-season blooms are frequently known as "red



Adult barnacle feeding (Magnified 10X)

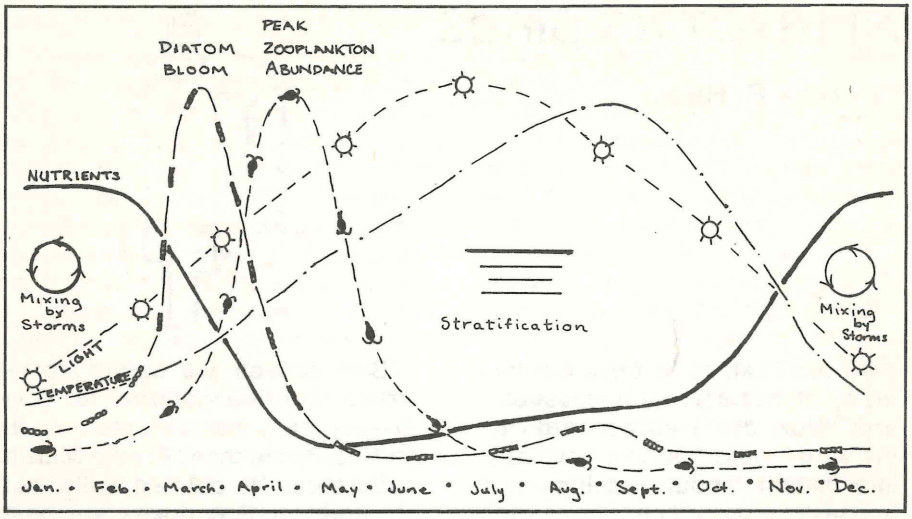
Barnacle nauplius larva (Magnified 100X)

tides"

What are the features that regulate or control the normal seasonal diatom increase or spring bloom in our coastal waters? Light is an important factor, and the longer days toward the end of winter mark the period of the usual bloom. With increasing solar illumination comes some slight increase in the temperature of the surface waters. As a result of the winter storms, the surface waters will also be well-mixed and replenished with the nitrate and phosphate minerals necessary for increasing productivity. These minerals are essential for growth and formation of new organic tissue; they are supplied by decay of organisms which have died. Bacterial action restores into available inorganic form the materials previously bound into organisms. The winter storms have mixed into the surface waters the accumulated reserves of the mineral elements, which otherwise are somewhat more abundant near the bottom, where the dead tissues decompose.

Thus, conditions are in a prime state to support a rapid increase of the diatoms. Cells go into a state of division and increase, which may result in much of the phosphate and nitrate available being converted into new organic matter. Reduction of the available minerals becomes therefore a limit to the capacity for new growth and the bloom reaches a peak abundance.

Other factors also operate in the cycle. The microscopic animal life, the zooplankton, utilizes phytoplankton diatoms as a major food source. In addition to the animals which live their entire life in the plankton, many bottom living forms produce eggs which form a planktonic larva. For example, the common barnacle has a lively larval form known as the nauplius, a small diamond-shaped organism with three pairs of legs. It is a voracious consumer of diatoms. In fact, the spawning cycle of barnacles is timed to produce larvae in early spring, when the diatom bloom assures a rich food supply. The rapid reduction in numbers produced by this heavy predation by grazing zoo-



Variations in plankton abundance as related to seasonal environmental changes.

plankton forms reduces the bloom of the diatoms to less abundant conditions during the summer. With their food supply available, but no longer at peak abundance, the zooplankton densities also decline, and the larval forms metamorphose into adult animals with varied and different feeding habits.

During the summer, the algal population is normally prevented from a further bloom by the low quantities of nutrient minerals available. The warm surface waters, often diluted with rainwater and runoff, are less dense than the colder and saltier deeper waters. Remains of the organic life die and sink into these deeper waters before undergoing full de-Composition. The nitrate and phosphate minerals thus tend to be regenerated in the deeper waters and are not so readily available near the surface to support a bloom. Some dinoflagellate forms, however, do manage to show an accumulation under summer conditions which may occasionally lead to a smaller "bloom". As noted earlier, unusual conditions can lead to excessive and unexpected blooms apart from the usual cycle.

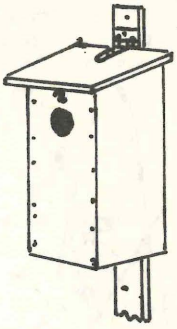
With the return of winter, the reduction of light as the season nears the solstice becomes a major limit to photosynthesis and growth. The storms of winter reduce the surface conditions to near-equality with the deeper waters, so that mixing takes place and the nutrient minerals become re-established at the surface. The return of longer days completes the cycle, re-establishing an environment for the bloom of these offshore pastures of the sea. Thus, the seasonal diatom increase or "spring bloom" is a regular part of the cycles of the natural marine environment.

• • •

Dr. David McGill is professor of Ocean Sciences at the U. S. Coast Guard Academy in New London. He is interested in the relationships between nutrients and productivity in the oceans. He has written a book for children entitled *Whales* (Follett: Chicago, suitable for third grade level.

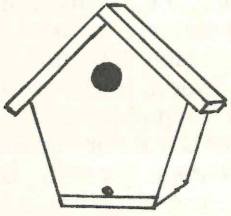
ATTRACTING BIRDS

by Frank R. Haeni

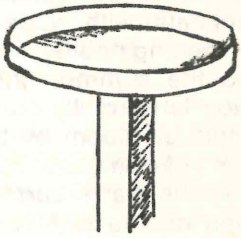


At the Thames Science Center, many of our calls and questions are: "How can I attract birds to my yard?" and "Do you have any information about making bird houses?".

Unfortunately, when new homes are built, the developer first bulldozes the land clear of trees and shrubs. Then, ironically, the last step must be landscaping the grounds with trees, shrubs and grasses. Unfortunately, it may take five, ten or even fifteen years before these introduced plants will fill out enough to provide nesting and hiding places for birds. You can get around this problem somewhat by setting out nesting boxes or platforms in your yard or garden. Different species of birds have different nesting requirements. Chickadees, Nuthatches, Wrens, Woodpeckers, and Purple Martins prefer cavities or holes for nesting. Robins, Phoebes, Barn Swallows and Flycatchers prefer to nest on platforms, under the eves of buildings, or in some other protected area.



Bird houses are easy to construct and inexpensive to buy. They should be rainproof, cool, and easily cleaned. Purple Martin houses can be painted white, but all other nesting boxes are best treated with a dull green, brown or gray stain. The inside of deep boxes should be rough to assist the young in climbing up to the opening. Perches at entrances may be of greater help to enemies than to the residents.



If a house is not used the first season, it is not necessarily an indication of faulty construction or poor location. There may just be more nesting sites available than there are pairs of nesting birds. It may take several years before Martins occupy a new box.

Houses should be located fairly high off the ground, within the reach of a man on the ground and facing away from the prevailing winds.

Another important considera-

tion for attracting birds is to have a readily available source of water, not only for drinking, but also for bathing. Bird baths can be purchased at garden centers or hardware stores. You might consider making your own from the top of a galvanized garbage can turned upside down and placed on a pedestal. Whatever type of bird bath that you use, be sure that it is far away from trees and shrubs where a cat might lie in wait for easy prey. Even the laziest of well-fed cats will prey on birds if given the chance. A bell on the cat's collar may warn the birds of approaching danger. However, I have observed belled cats who could stalk birds without jingling.

For further information about attracting birds to your yard, and on constructing bird houses, stop in at the Thames Science Center to see our new displays.

• • •

Frank R. Haeni, Chief Naturalist at the Thames Science Center, is an avid bird watcher and licensed bird bander. He has banded birds in Wisconsin, Saskatchewan, New York and Connecticut. In addition to his interest in birds, he enjoys photographing flowers and mushrooms.

AUDUBON WILDLIFE FILM

Sunday
April 8, 1973
3:00 PM
Eben McMillan
"Outback Australia"

The vast and mysterious portion of Australia known as the Outback comes to light in this absorbing film by Eben McMillan. Jabiru storks, ibis and spoonbills feed in the marshes, while honeyeaters and lorikeets frequent the blossoming eucalyptus. The big, red kangaroo comes in for close study, and wide-eyed koala bears watch the world go by from their perches high in a gum tree. Don't miss this adventure in the land "down under."

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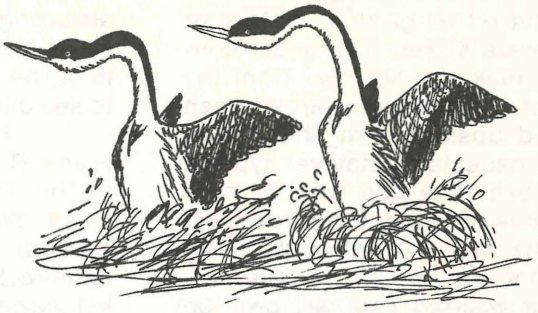
THE RITUAL OF SPRING

by Kathie Haeni



Every land has some kind of spring season, however brief. Even seemingly unchanging tropical regions have periods of greater leaf renewal after a shedding. Nowhere, except perhaps in the deepest recesses of caverns or abysses of the sea, is there a truly seasonless ecology. Most of the earth's surface is subject to major climatic shifts as the sun's heat swings north and south with the changing year. Nearly everywhere one can witness the importance of the seasons on animal life—timing migrations, regulating the onset of reproduction, imposing shifts in social relations between individuals and in the organization of whole societies. Indeed, the sun's passage regulates the great symphony of life, drawing with it, as the moon does the tides, the urge for replenishment, for creation, for reproduction.

Buy why should mechanisms responsible for life's renewal gear themselves to the timing of spring? Why not to summer or fall? And how do these mechanisms work?

The answer to the first question is simple. Animals breed at those times of the year that offer the most promising conditions for raising young. In particular, animals tend to breed when food resources not only are adequate for the adult population but also exist in surplus quantities. If not compelled to forage constantly, animals can have the spare time that courtship demands. And plentiful food provides the energy necessary for the reactivating of dormant sex glands, for egg manufacture, for incubation and for the feeding of young. Not all newborn need attentive parents, yet the principle remains the same. Fish, frogs and reptiles produce fertilized eggs at a time when the developing young can find enough food to grow to maturity. The timing of each species' breeding season is related to the peak abundance of its particular type of food.

Studies suggest that birds make use of environmental signs —warming temperatures or the onset of green after rain, that herald the coming of good feeding conditions. For each species, natural selection ensures the evolution of a sensitivity to the environment—a sensitivity setting off physiological mechanisms that prepare the species for

breeding at the best time.

These mechanisms have their seat in the area of the forepart of the brain called the *hypothalamus.* Here the brain's responsiveness to external factors such as the lengthening days of spring, triggers the activity of that master gland, the pituitary. It sends chemical messengers coursing through the bloodstream. One of these, known as lutenizing hormone, or LH, awakens the winter-dormant sex glands. Another, called follicle-stimulating hormone, or FSH, brings about the formation of sperm and eggs. The precise functioning of this apparatus varies from species to species.

Following breeding, sex glands cease to respond to environmental stimuli. They become "refractory" and no reproduction is possible so long as this state continues. Evidence suggests that the refractory period in birds is commonly initiated by the bird's response to summer day-lengths. While the increasing day-lengths of spring bring about reproductive condition, long summer days turn it off again. Food supplies have had a role in the evolution of the refractory period, which varies among species. The day-lengths of fall, matching those of spring, are commonly sufficient to start the renewal of breeding behavior by most birds. But now other factors intervene to prevent reproduction. These inhibitors include the steadily dwindling hours of daylight, dropping temperatures and poor food supplies. And so avian sex glands slip into winter's resting state, to await another spring's resurgence.

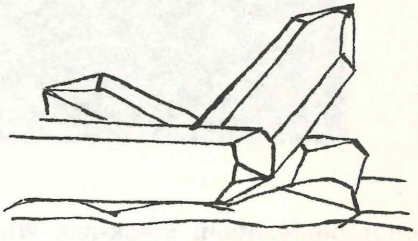
• • •

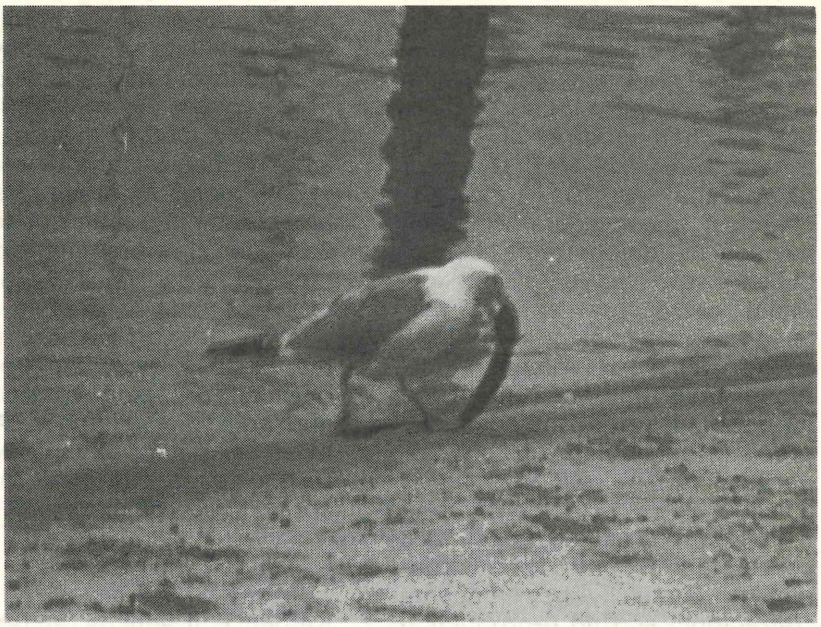
Kathie Y. Haeni is an amateur animal behaviorist. She is an assistant at the Thames Science Center and is in charge of the Young Naturalist program.

THAMES SCIENCE CENTER MUSEUM SHOP

FOR ROCKHOUNDS:

Gem Jewelry
Geodes
Polished Stones
Mineral Samples
BOOKS:
A Rockhound's Guide to Connecticut
The Rockhound's Manual

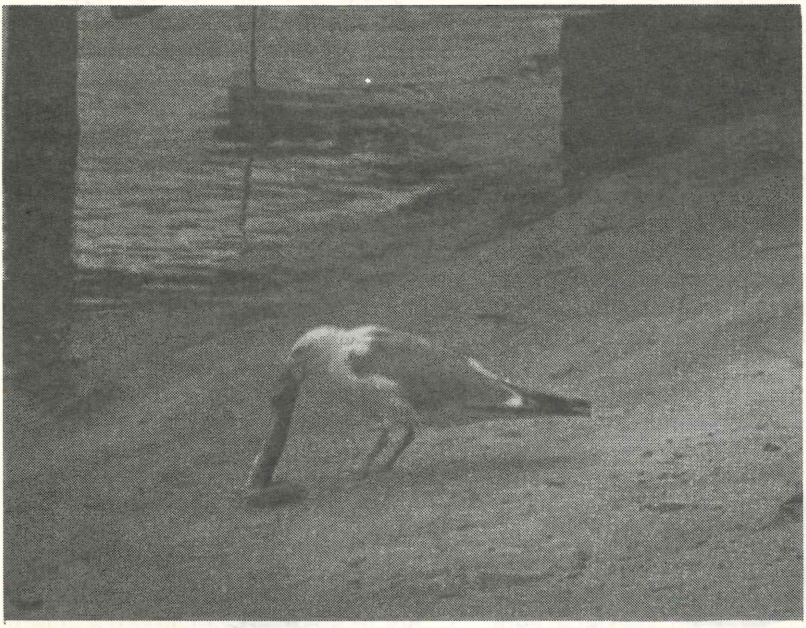


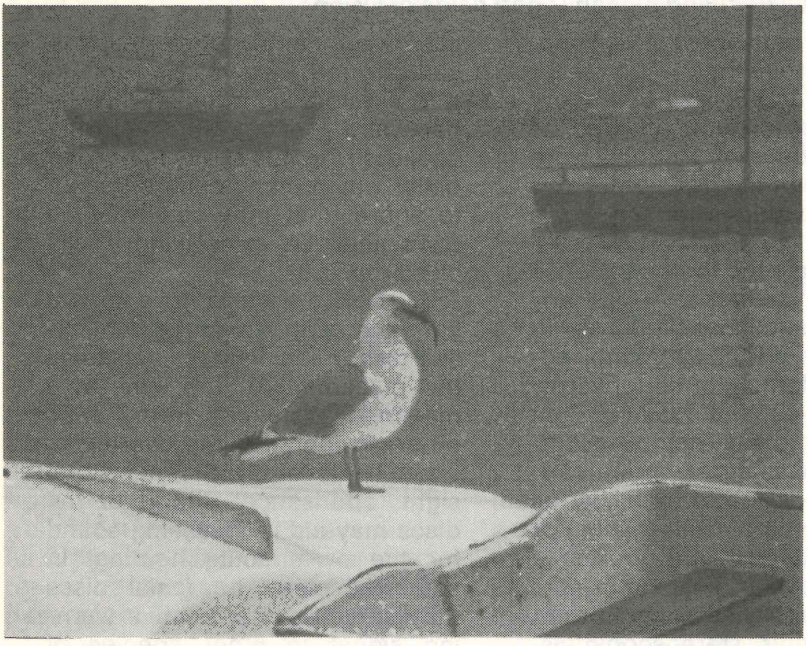


Honorable Mention: Black-and-White

Mrs. H. Hoadley

PHOTOGRA





PHY CONTEST

"The Whole Thing?"

Owl Eyes

by Brenda Golberg Bibb

Have you ever wondered why the Thames Science Center uses an owl as its symbol? So have I—but no one seems to be able to tell me! Perhaps the owl was chosen to represent the search for wisdom as symbolized by the owl in myth and folklore. Athena, the Greek goddess of wisdom, wore the insignia of the owl, sometimes even appearing with an owl's head.

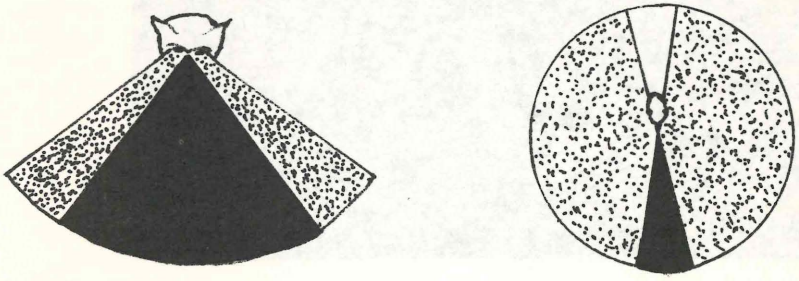


Figure 1. Owl (left) and pigeon (right) fields of vision.

Can we use the tools of science to tell us whether there is any basis to this folklore? It is easy to see how the owl has come to represent wisdom: with its forwardly directed eyes, flat face, upright posture and plainly colored plumage, the owl is surely a fine caricature of a wise old man. Let us examine some of the reasons for these characteristics.

Owls and man share a feature of real importance to both species: binocular, stereoscopic vision. Having both eyes directed forward from a flat face allows the fields of vision to overlap, so that distances can be judged accurately. Owls differ from most other birds in this placement of the eyes (Figure 1). The more typical condition is represented by the pigeon, with its eyes on either side of its head, allowing an extremely wide field of vision, but little binocular vision. To achieve three-dimensional vision the pigeon must bob and peer constantly. Owls do this to a limited extent. Because of the relatively narrow width of the owl's field of vision, and because their eyes are firmly fixed in their skeletal sockets, owls must turn their heads to look around. They can do this to a point looking almost directly backward, and with amazing speed. From this ability arises the belief which many children seem to share: that they can twist an owl's head off by walking in circles around it!

Why does the owl have such a flat face, with its round, cheek-like discs? The flatness facilitates the placement of the eyes at a maximal distance from each other, to increase the overlap of visual fields for three-dimensional sight. The saucer shape of the discs may aid in focussing sound for the owl's acute hearing. In some species, the facial discs may serve as a protective warning signal to other species of birds, which tend to mob owls by day. In these owls, notably barn owls, the light-colored facial disc and the eyes form a concentric ring pattern known to indicate

danger to other animals.

The large eyes of the owl increase its facial resemblance to that of a human. They are also important to the owl's remarkable night vision. The Great Horned Owl on our cover has eyes almost as large as those of a human. But the ability to resolve fine detail is not dependent on eye size—it depends on the number of cells and nerve endings in the retina of the eye, rather like the fineness of a photograph depends on the fineness of the grain of the film.

What is most amazing about owls' eyes is their ability to resolve fine detail at night. Some reasons for this can be seen in the anatomy of the owl eye (Figure 2). The lens is large and spherical, thus throwing a bright image on the retina, which is closer than that in a day-living bird. The round pupil can open to the full aperture of the lens, permitting maximal light penetration under low light conditions. The cellular composition of the retina in owls differs from that in day-living birds as well. Most such birds have a mixture of rods and cones in the retina, to respond to light and pass this response on to the optic nerve ending and the brain. Cone cells are responsible for color vision, and are rare in the owl retina. Rods, usually important to day-living creatures only as night falls, predominate in the owl retina. These cells are responsible for the "dark adaptation" of our own experience, and for the great light sensitivity of owl eyes.

The plain-colored plumage of the owl serves him as camouflage for his daytime rest. Owl feathers have special adaptations for noiseless flight: delicate fringes along the edges and a velvet-like pile covering. The surface area of owl wings is great compared to the weight of the owl, so that owls fly bouyantly with ease. The softness and fullness of the owl's plumage increases their appeal to humans while concealing the weapons which make the owl such an efficient predator.

As well as their legendary wisdom, owls have been praised and blamed throughout history for a variety of human attributes which they scarcely deserve: bad luck, good luck, curing baldness and obtaining confessions. John Sparks and Tony Soper in *Owls: Their Natural and Unnatural History* (Taplinger: New York), review these myths as well as providing a wealth of information all about owls. Our fascination with the owl as a symbol can lead us to neglect the intriguing true facts about owls which allow them to make a living in the dark, an environment in which man has not yet conquered. That may be the best owl story yet!!

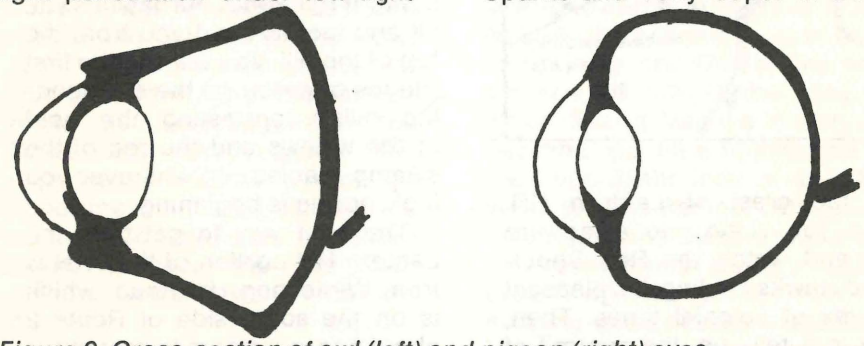
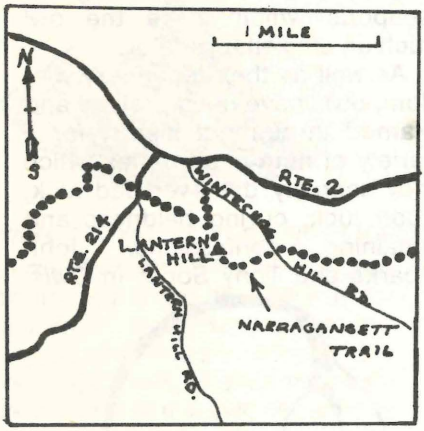


Figure 2. Cross-section of owl (left) and pigeon (right) eyes.

A MARCH JAUNT: LANTERN HILL

by Shelley White

A spectacular hike for March is along the crest of Lantern Hill on the Pequot-Narragansett Trail. From the summit of Lantern Hill, 491 feet above sea level, you can see the ocean: Block Island rises out of the east, and to the south you can see the tall radar towers of Montauk Point, on Long Island in New York. Scrubby pitch pines

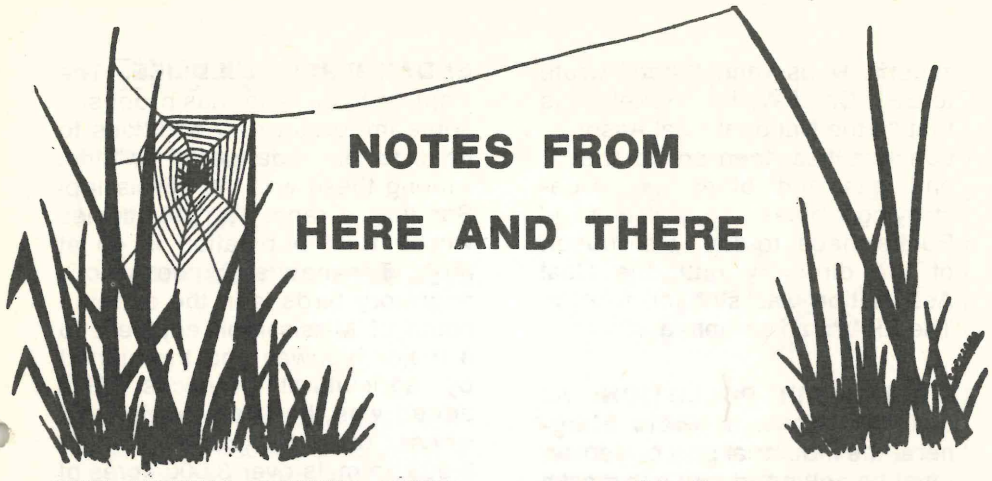


hug the crest of Lantern Hill. When you settle into a leeward spot and watch the Red Shouldered Hawks circling, it's pleasant to think of colonial times. Then, local lore tells us, the summit of Lantern Hill was used to aid in the navigation of the sailing vessels offshore. The whiteness of the high quality silica of which the hill is composed must have indeed shone like a lantern!

It is a steep hike and you will really need to stop to catch your breath. Follow the blue trail markers on the west side of the hill to ascend through heavy woods and laurel growth. As you near the crest, you will come upon bare rocks and pitch pine, and the cold draft from the pond below will send a shiver through your jacket even on warm days. Copperheads were found here not too many years ago, and it's still a good idea to sing as you climb to let the world (and the snakes) know you are there.

March will be an especially inviting month to hike Lantern Hill: pussy willows will be flowering, early redwinged blackbirds singing, spring peepers calling in Lantern Hill Pond. Perhaps as you sit and look around you from the top of the hill, you will see the first fringes of green on the surrounding hills, contrasting the gold of the willows and the red of the swamp maples . . . wherever you look, spring is beginning.

The best way to get onto the Lantern Hill portion of the Trial is from Wintechog Hill Road, which is on the south side of Route 2 about one-quarter mile east of the intersection of Routes 2 and 214. Proceed south on Wintechog Hill Road for 0.2 miles and look for the blue trail marker on the right (west) side, indicating the beginning of the Narragansett Trail.



NOTES FROM HERE AND THERE

THE ANNUAL DINNER MEETING of the Thames Science Center, Inc. was held Wednesday, January 24, 1973. One hundred and five members and guests were present. Elected to three-year terms as Director of the Thames Science Center were: Dr. Robert DeSanto, Dr. Marion Hamilton, J. Morgan Miner, F. Kneedler, Dr. William Niering, and Robert M. Sussler. Dr DeSanto was re-elected as President of the Science Center, Mrs. John Kashanski was elected as Vice-president, Mrs. William B. White as Secretary, and Mr. Royce Gray as Treasurer. Mr. Tom Hatfield, Chairman of the Department of Life Science at Mitchell College, was the after-dinner speaker. His fine color slides of Iceland were most enjoyable.

NEWLY ELECTED OFFICES OF THE JUNIOR CURATOR ORGANIZATION include Kit Oldham, President; Rebbeca Posner, Vice-president; Donna Davis, Secretary; Bill Ryan, Treasurer. Other members of the organization include Mimi DeGange, Katie Beal, Wanda Wyand, Karen Hirschberg, Susan Kashanski, Catherine Kashanski, James Smith, Jeff Lang, and George Dallas. The Junior Curators are responsible for maintaining the Center's live animal museum; publishing the quarterly *Curator's Courier;* maintaining the TSC and Peace Sanctuary Nature Trail; and conducting the monthly paper drive.

CORPORATE RESPONSIBILITY: Union Camp Corporation, a major forest products firm, has donated 49,000 acres of the Great Dismal Swamp in Virginia to the Nature Conservancy. The area, comprising one-fifth of the total acreage of the Dismal Swamp which lies in Virginia and North Carolina, will be administered by the Dept. of the Interior as a National Wildlife Refuge. Others with holdings in the Swamp will hopefully follow Union Camp's lead in preserving one of the last remaining wildernesses in the East, already diminished to one-third its original size due to agricultural and residential development.

. . . AND OTHERWISE: Congressmen, Henry Reuss (D.-Wis.) and John Dingell (D.-Mich.), have caught strip miners masquerading as conservationists. The National Coal Association, which has contributed more than its share to spoiling America's natural beauty, was listed in a new Federal directory of environmental organi-

zations. Reuss and Dingell wrote to EPA Chief William Rukelshaus that "if the National Coal Association qualifies, then so do the oil and gas and other nature-destroying lobbies." They also asked Ruckelshaus to halt distribution of the directory until the Coal Association was stricken from it. The EPA head complied. . .

ITALIAN AIR POLLUTION: All 50,000 workers in Porto Marghera, the industrial port of Venice, must be equipped with gas masks to protect them from air pollution. The order was sent by Venice's chief labor inspector to 206 firms with factories or offices at the port. The edict comes on the heels of several recent cases in which groups of men were intoxicated by industrial gas fumes.

CROWDED WILDERNESS: The Salmon River in Idaho is feeling a population boom. All floaters on the Middle Fork of the Salmon will have to have reservations for trips scheduled for next summer. Some 4,000 persons floated the river during a 72-day season last summer.

AN INTRODUCTION TO POPULATION, ENVIRONMENT, AND SOCIETY, a 290-page sourcebook for secondary school teachers, is available for $4.50 from Lawrence M. Schaefer; 625 Orange St., #38; New Haven, Conn. 06511.

ENDANGERED WILDLIFE: The Dept. of the Interior has proposed some important new additions to its lists of endangered wildlife. Among these was the Mississippi Sandhill Crane, a subspecies whose total population is 40 at most. The habitat of these non-migratory birds is in the extreme south of Mississippi, adjacent to a major highway and threatened by agricultural practices. Also added was the Utah Prarie Dog, whose restricted range (5,000-6,000 animals over 3,000 acres of private property) is threatened by agricultural practices and private control measures, i.e. poisoning. The Eastern Cougar (U.S. east of the Rock Mountains) and the Northern Rocky Mountain Wolf were also added, although both have been thought to be completely extinct, but there continue to be reports of sightings.

WHERE DID THEY GO? Ten Whooping Cranes were missing when the closely-watched flock migrated recently from Canada's Northwest Territories to the Gulf of Mexico. Dr. Ray C. Erickson, Assistant-director for endangered wildlife research at the Patuxent National Wildlife Research Center in Patuxent, Md., said the flock contained only 46 adult cranes and 5 young birds on arrival at Aransas, Texas. Fifty-six cranes were in the flock when it flew north to Great Slave Lake last spring.

Answer to February's Crossword Puzzle

ACROSS:		DOWN:	
3. Swamp.	54. Lagoon.	1. Bedrock.	22. Fossil.
12. Dirt.	60. Quartz.	2. Marble.	31. Schist.
23. Bar.	72. Mineral.	3. Shale.	52. Magma.
27. Limestone.	80. Mica.	7. Pit.	56. Geology.
44. Soil.	86. Gas.	18. Erosion.	67. Gem.
	87. Sedimentary.		69. Era.

WANTED:

Information on Blue Jays

Quite often Blue Jays are observed in a negative manner: That is, the presence of Blue Jays at a winter bird feeder is viewed as a nuisance by many people. The absence of these brightly-colored birds generally passes by unnoticed, except by those who enjoy seeing them.

For reasons unknown to ornithologists, the Blue Jay population has plunged to a low, as indicated by a comparison of this year's Christmas Bird Count to last year's.

Ornithologist James Baird has begun an investigation into Blue Jay numbers. He would like to hear from anyone who has firm information to compare numbers of Blue Jays at feeders this year with the previous two years. He would also like information concerning the period of winter in which the increase or decrease of the jays was first noted. If you have this kind of information, or other pertinent observations, mail it to James Baird, Conservation Services Center; Lincoln, Massachusetts 01773.

A warm southerly breeze welcomed the New Year with temperature in the mid-fifties. A week later the temperature plunged down to zero, freezing the lakes, ponds and rivers. Over sixty skating enthusiasts were found taking advantage of the frozen Mystic River on January 14. The first snow fall came on the 29th, but was short-lived when the thermometer rose to 40° later in the day.

New London, Waterford: Seven BLUE BIRDS were seen in Oakdale, January 6. A BROWN THRASHER was found in Waterford, January 10. Other Waterford observations include three MEADOWLARKS, a very unusual CANADA JAY, and ten BALDPATE DUCKS at Harkness Pond on January 17; a SHORT-EARED OWL on January 21 and a wintering HERMIT THRUSH, January 29. A chipmunk came out of its wintering den to feed on sunflower seeds set out for the birds on January 29 at the Thames Science Center.

Old Lyme, Essex: Birders found a BARRED OWL in Old Lyme, January 16. A RED-SHOULDERED HAWK was observed in

Essex, January 29. Twenty RED CROSSBILLS were seen in Old Lyme, January 30.

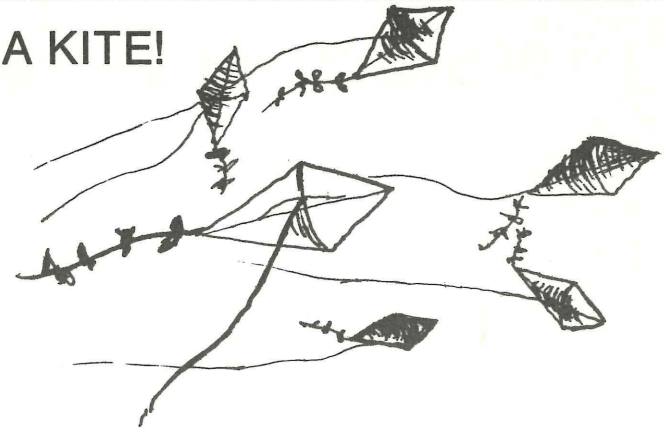
Groton, Mystic, Stonington: Birders in the Noank area had some interesting observations during the month of January, including two wintering BLACK CROWNED NIGHT HERONS, an OLD SQUAW, and a very unusual LOGGERHEAD SHRIKE. A MARSH HAWK was seen hovering over the marsh at Barn Island, January 13. The highlight of the month was a seldom seen PILEATED WOODPECKER at the Peace Sanctuary, January 15. A flock of forty RED CROSSBILLS was seen in Old Mystic, January 17. Other observations at the Peace Sanctuary include a RED-BREASTED NUTHATCH, January 18, and a GREAT BLUE HERON, found roosting in a tree in the Red Maple Swamp on January 21. An uncommon PIGEON HAWK was observed in Groton, January 21. A group of HARBOR SEALS were seen off of the point near the Borough School in Stonington, January 26. A BARRED OWL was seen sitting in a tree along I-95 near the Groton Town Reservoir, January 30. Also seen on that same day was the uncommon RED-BELLIED WOODPECKER, found in Gales Ferry.

Rhode Island Shoreline: On January 28, two RED-NECKED GREBES and a COMMON EIDER were seen at Weekapaug. Three SNOWGEESE stayed at Moonstone throughout the month. Other unusual Moonstone observations include an AMERICAN BITTERN and a VIRGINIA RAIL.

Contributors: R. Anderson, Mrs. Dorothy Barnes, Grace Bissell, Mrs. R. Calasant, Mrs. Helen Gilman, F. R. Haeni, K. Y. Haeni, Mrs. Jo Merrill, Mrs. Mary Mingo, B. Ryan, B. White, Mrs. Linda Williams.

Helping a Grounded Heron: "On the evening of January 15, 1973, my husband saw a Great Blue Heron on Haley Road in Ledyard. He told me to get my coat on, and we tried to locate it near a wooded area off the road. As we approached him, he walked in the woods with no apparent difficulty, but we noticed that he was unable to gain altitude when he moved his wings. We called our local vet. He told us to approach the heron cautiously, tie a rubber-band around his beak and bring him to his office for an examination. The heron's breathing seemed shallow and he lay deathly still. The vet said the heron was thin and cold, but in otherwise good condition. He gave him medication for a mouth infection, a meal and warm lodgings, then released him the following day in an improved condition. It's hard to say who was more scared at this unusual encounter. "—Sondra Simon; Ledyard, Connecticut.

GO FLY A KITE!



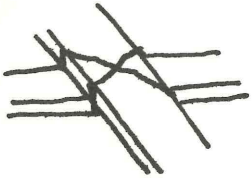
by Shelley White

Here's how to make a kite for flying on these windy spring days ahead.

You will need: tissue or thin wrapping paper, rags for the tail, string, a ruler, rubber cement, 2 sticks (one 36" long, ¼" thick, one 24" long, ¼" thick), paint and a brush.

Start by cutting a shallow groove in both ends on each stick.

Cross the sticks and tie together at a point 12" from one end of the long stick.



Run string through the grooves on the ends of the sticks and outline the shape of your kite, tie carefully. Now place your kite frame on the tissue paper that is no smaller than 26" x 38", and draw a line about 1" from the string on all sides. Cut out along this line.

If you'd like your kite to have a face or your name or a design on it, now is the time to paint it! Try to imagine how it is going to look when high and small in the windy sky, and paint it with many bright colors so you can see it from afar.

When the paint is dry, fold the 1" margin over the string and glue it. When the glue is dry make a bow in the kite by fastening the two ends of the short stick together with a length of string.

At 8" from each end of the long piece of wood, make small holes through the paper on each side of the stick. Fasten a 28" length of string to these two points and around the stick, and tie carefully. Wrap your long, long, long hand cord around a piece of wood, and tie the other end to the loose string on your kite.

To make your kite's tail, tie pieces of cloth on a string to the bottom of the kite. For really windy days be sure to have a long tail.

No one can tell you quite how to get your kite to fly: you can run into the wind letting the string out slowly and the wind will help you.

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